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# STATE WATER PLAN DEVELOPMENT: a revised approach

a report to the citizens  
of the state of California



## PLEASE RETURN

JANUARY, 1987

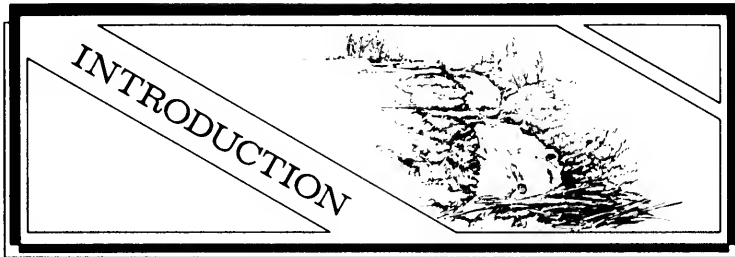


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Publication of a comprehensive water plan has been a goal of the state of Montana for two decades. Achievement of this goal has been hindered by changing concepts of what the plan is intended to accomplish. While these concepts changed, the need for the plan continued to grow. Today, the issues facing state water managers are more complex and have broader implications. In view of these issues, the lessons of the past, and present funding trends, four practical objectives for the state water plan become apparent.

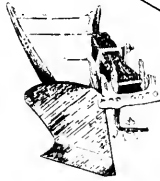
1. Document state water policy. The state water plan must clarify state water policies. It must be a straightforward and systematic reference on state water management principles. Through the planning process, all water-related management strategies and activities must be documented, analyzed, endorsed by the public, and to the extent possible, merged to describe a clear and comprehensive state water policy.
2. Promote more coordinated water management. There may be opportunities for greater inter-agency water management coordination. The state water plan should improve coordination among government agencies and eliminate duplication of efforts where management functions are logically complementary.

3. Designate water management priorities. There are limits to the funding available to resolve a large array of important water issues. Identifying priority water issues and focusing resources on their resolution is preferable to attempting to address all water issues and resolving fewer of them.
4. Lead to water management action. Planning is intended to assist in making decisions. Thus, the success of state water planning must be measured by its effect on water management actions. Planners and decision makers must work together in order to improve both management and planning success. We do not have the luxury of treating planning as an academic exercise; it must be directed toward producing results.

This report presents a new approach for developing a state water plan for Montana. It is a summary of a longer document, available upon request, that details the historical background, theoretical framework, and specific steps of the revised planning process. Together, these reports represent a desire to do more than simply fulfill a statutory requirement for a state water plan. The goal is to enhance the productivity of state water management and improve responsiveness to current and future water problems.

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# BACKGROUND



## Statutory Framework

In passing the 1967 Water Resources Act, the Montana Legislature set forth several water management goals for the state and concluded that these goals are to be accomplished through formulation of a state water plan. Also in that statute (Section 85-1-203, MCA), the legislature required that the plan:

- be comprehensive,
- be coordinated,
- provide for multiple uses,
- set out a progressive program for the conservation, development, and utilization of the state's water, and
- propose the most effective means by which the water resources may be used for the benefit of the people, with due consideration of alternative uses and combinations of uses.

As for the planning process, the legislature prescribed that:

- the Department of Natural Resources and Conservation (the department) is to formulate the plan,
- the plan may be developed in sections corresponding to hydrologic divisions of the state,
- the department is to consult with and solicit the advice of the legislature's Water Policy Committee,
- public hearings are to be held prior to plan adoption,
- the department is to adopt the plan, with the approval of the Board of Natural Resources and Conservation,

- once the plan is adopted, the department is to publish it, and
- the adopted plan is to be submitted to the Water Policy Committee and to each general session of the legislature.

## History of Water Planning in Montana

The efforts of the department to meet the statutory water planning mandate and the numerous documents that resulted are described in the 1985 report to the 49th Legislature, Montana's Water Planning Program. The history of state water planning has had a major impact on our perspective of how--and how not--to plan and thus provides context to this report. There are three distinct periods to this history: the project planning period prior to 1965, the basin planning period from 1965 to 1981, and the present planning period beginning in 1981.

### 1. Project Planning: Prior to 1965

For a long time, water project development was the sole focus of water planning. People learned the hard way that Montana's harsh climate made dryland farming a precarious business and that an assured supply of supplemental feed for livestock during the winter was a necessity. Irrigation projects were deemed essential because they would provide needed stability to Montana's agricultural economy. Montanans' pleas for irrigation projects were heard in Helena and Washington, D.C. In response, about 180 projects were constructed during and after the Great Depression in the 33-year tenure of the State Water Conservation Board. About

half of the funding for these projects came from the Public Works Administration and other federal sources. Some of the original projects were abandoned; some proved too costly to operate and others were poorly designed or constructed. For example, the Big Dry Project included a dam that was hurriedly constructed, washed out, reconstructed, and washed out again. Such problems usually stemmed from the federal government's over eagerness to put people to work--political decisions to construct were made before the planning had been completed. Forty-three of these projects are still administered by the state, and many others have been transferred to private water users. Projects such as Painted Rocks, Tongue River, and Deadman's Basin continue to provide economic benefits to their users and to stabilize agricultural production across the state.

## 2. Basin Planning: 1965 to 1981

In 1965, Congress passed the Water Resources Planning Act, which defined the nation's concept of water planning for sixteen years. This act provided grants to states for water planning activities. Montana's water planning program received between \$70,000 and \$200,000 per year from this source. The act also created river basin commissions to oversee planning for development and protection of the nation's major river basins. Basin planning emphasized close coordination among interested local, state, and federal agencies. It was a scientific, technically-oriented approach to water planning that provided much-needed information. On the other hand, basin planning was expensive. The basin plan for the Yellowstone River, for example, cost \$2.4 million. The major criticism of the basin plans has been their inability to generate action.

## 3. Problem-Specific Planning: 1981 to present

The basin planning period ended in 1981 when President Reagan abolished the river basin commissions and ended grants for

state water planning. Montana's water planning capabilities were substantially reduced. A lack of personnel and funding forced the state into a reactive posture. Planning was focused on the most pressing water problems and achieving their solutions.

Federal withdrawal from the leadership role in water planning and the state's assumption of this responsibility prompted a fundamental reevaluation of state water planning. The reevaluation was bolstered by an inference from the recent U.S. Supreme Court ruling in Colorado v. New Mexico that a state water plan could benefit a state's position in an equitable apportionment suit. As a result of this self-assessment, it became apparent that the current state water management effort is not as systematic as it might be; there is no framework to guarantee that the issues addressed are the most pressing and that the recommended solutions are comprehensive, the most efficient, and acceptable to the public. With the support and guidance of the legislature's Water Policy Committee, the reevaluation has culminated in this report.

## Lessons Learned

From the project planning period, we learned that water management involves more than just developing and operating water projects. While water development provides the answer to some problems, water projects cannot resolve other issues we face today, such as those concerning interstate water allocation, non-point source pollution, water use efficiency, or the quantification of federally reserved water rights. Such issues require that the planning process examine our administrative programs, laws and policies, funding commitments, and technological capabilities, and develop improved strategies for water management.

Basin planning demonstrated the futility of planning simply for its own sake. Although basin planning resulted in valuable technical information, it was directed toward the production of a final document and not toward achieving an on-

going process for solving problems. That kind of planning should not continue even if the substantial funds for it were still available. In terms of generating management actions, the benefits are insufficient.

Perhaps the most successful water planning exercise in recent years was the 1981 review of Montana's water policy performed with the assistance of a Water Policy Review Advisory Council. This review led to creation of the state's dam safety and water development programs, development of a state water protection strategy for the Missouri Basin, passage of legislation to allow the closure of over-appropriated basins, and a proposal for a water data management system. This success has served as a model for the state water plan.

From these lessons, we have identified some characteristics that are important to water planning success. For instance, the water policy review process could have been even more successful had it not been temporary. Planning must be continuous; it should not conclude with the publication of a plan. Plans must be adaptable to change because problems change. An important characteristic of the water policy review process was a strong commitment to public involvement. The advisory council, as a representative of the public, was not just window dressing for the process; it directed the process towards its outcome. A final desired characteristic of the planning process is thrift. Ultimately, the planning process should resolve the most important and greatest number of problems for the available planning dollar.





### Planning Process

Montana's new water planning process fulfills the department's water planning responsibilities with minimum disruption to the existing administrative framework. The process depends upon the cooperative participation of existing agencies. The only new governmental entities created are advisory groups.

A State Water Plan Advisory Council has been organized to supervise the development of the state water plan. This council is composed of ten members: the directors of the Department of Natural Resources and Conservation, the Department of Health and Environmental Sciences, and the Department of Fish, Wildlife and Parks; a representative of the Governor's Office; four legislators; and two representatives of the public who are respected in the water management field. The advisory council sets annual priorities among components of the plan, assigns responsibility among state agencies for drafting those components, supervises the submission of drafts to willing outside experts (including federal, state, and local government officials, academics, and interested private sector professionals), and supervises the technical revisions of drafts.

Local, basin-specific Citizens' Advisory Committees are to be organized to perform a similar function for subbasin management issue components of the plan. These committees are appointed by the governor and provide local citizen involvement in the development and revision of plan components. The remaining formal participants are the Board of Natural Resources and Conservation, which approves the plan

prior to department adoption, and the legislature, which receives the plan after adoption and, it is hoped, implements plan recommendations for legislative action.

Figure 1 illustrates the seven stages of the planning process: initiation and drafting, technical review, public review, final revisions, adoption, implementation, and reevaluation. The first five stages comprise an annual formulation cycle. During the initiation and drafting stage, the State Water Plan Advisory Council sets annual plan priorities and assigns responsibility for drafting plan components among state agencies. Technical review includes the submission of drafts for review by outside experts and the recommendation of revisions by the State Water Plan Advisory Council and local advisory committees. Public review entails statewide meetings on plan components and consultations with the Water Policy Committee. Then, the feedback from the technical and public reviews is used by the department to prepare final drafts of plan components for adoption. Adoption includes a final public hearing and Board of Natural Resources and Conservation approval. Implementation of the plan is not mandatory, and may require action by state, local, federal or even private entities. In reality, the strength of the political support for the plan is the determining factor for its implementation. The planning process attempts to achieve consensus in formulating the plan and to promote the development of a state water plan constituency.

A final factor that can stimulate plan implementation is reevaluation. Reevaluation

## FIGURE 1

### REVISED WATER PLANNING PROCESS

#### I. INITIATION AND DRAFTING

- A. Annual priorities for plan component formulation determined by the State Water Plan Advisory Council with input of public survey
- B. Begin drafting components

#### II. TECHNICAL REVIEW

- A. Expert comment solicited
- B. State Water Plan Advisory Council revisions incorporated

#### III. PUBLIC REVIEW

- A. Statewide public meetings held and public comment received
- B. Basin Citizens' Advisory Committees facilitate local review
- C. Request Water Policy Committee advice on public comment

#### IV. FINAL REVISIONS

- A. Finalize drafts

#### V. ADOPTION

- A. Public hearing
- B. Board approval
- C. Adoption through rulemaking

#### VI. IMPLEMENTATION

- A. Plan sections submitted to legislature and Water Policy Committee

#### VII. REEVALUATION

- A. Mandatory after six years, can be sooner if determined necessary by the State Water Plan Advisory Council



tion insures that the plan remains current and also serves as a reminder of any unfulfilled responsibilities for plan implementation.

The success of the planning process may depend upon the effectiveness of public involvement. Effective public involvement assists in identifying and setting priorities among issues to be considered, provides a view of public sentiment, and results in broader support for implementation of planning recommendations. Public involvement techniques to be employed include public meetings and hearings, a newsletter, surveys, and the advisory groups. Fundamentally, the public involvement effort must be sincere, responsive, and simple in the use of written and verbal language.

#### **Plan Documentation**

The new state water plan is to be a collection of short, individual management issue, pamphlet-style components, organized in a logical sequence and bound together in a three-ring binder. This format was developed for the Kansas Water Plan and is being borrowed by Montana. The format is flexible and allows the plan to be updated regularly. Components can be added, deleted, or revised as circumstances change without compromising the integrity of the rest of the document. This format allows the plan to be developed incrementally with the number of components formulated each year depending on the availability of funds. The current goal is to complete an initial formulation of all plan components in six years.

An outline of potential components of Montana's state water plan is attached as Appendix A. It is organized into two major parts, which are divided further into sections and subsections. The first part is devoted to statewide water management issues, the second to basin-specific management issues. Statewide management issues are divided into water supply

management, water quality management, and aquatic and recreational resources management sections. The basin-specific management issues are divided into Columbia, Missouri, and Yellowstone basin sections. Sections are further divided into subsections corresponding to more specific statewide issues or watersheds.

A pamphlet-style component of the state water plan is to be brief and follow a uniform outline which requires the plan to precisely identify needed actions and assign responsibilities for plan implementation. The outline is presented in Figure 2 with an example of the kinds of items found under each heading of the standard contents. The example is taken from a component of the Kansas Water Plan.

#### **Program Cost**

The department estimates that completing the state water plan during the desired six year time span will cost \$87,000 per year. This would result in the major water issues confronting Montana being addressed, with the most pressing water issues considered during the first three years of plan development (fiscal years 1988-90).

This creates a dilemma. The department is not adequately funded to develop this kind of state water plan. But increasing funds for the state water plan would mean expanding a program at a time when state government is attempting to cut costs and trim budgets to match declining revenues.

The state water plan remains a high priority of the department, consistent with direction from the legislature and, more recently, from the Water Policy Committee. However, the department cannot recommend additional funding at the expense of programs which comply with more immediate legislative mandates or involve public health and safety, such as the water development program, new water rights appropriations, or dam safety.

Are there ways to lower costs or obtain additional funding for the state water plan? Some alternatives include:

1. Lower Annual Costs.

The program could be implemented over a longer time period. This would mean that four to six additional years would be needed to develop the entire plan with some high priority issues not being addressed for several years.

Public involvement could be less comprehensive. As a result, a few important issues may not be identified or analyzed thoroughly. This could also result in incorrect recommendations and a lack of consensus and less public support for components of the plan.

The development of plan components could be made an additional responsibility of other, presently funded water programs. Although the savings to the water planning

program would thus be partly shifted to these programs, the plan would not be as well coordinated or as comprehensive.

2. Find Other Sources of Funds.

Applications could be made for federal and private foundation grants. However, the development of a much-needed water plan for Montana would not be assured since there is no guarantee that other funds would be forthcoming.

Other programs, both within or outside the department, could be foregone and their funding reallocated to the state water plan.

The department plans to submit more detailed cost estimates for the planning process to the State Water Plan Advisory Council. In turn, this council will make the appropriate funding recommendation to the legislature from among these, or possibly other, alternatives.

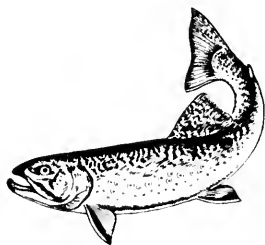
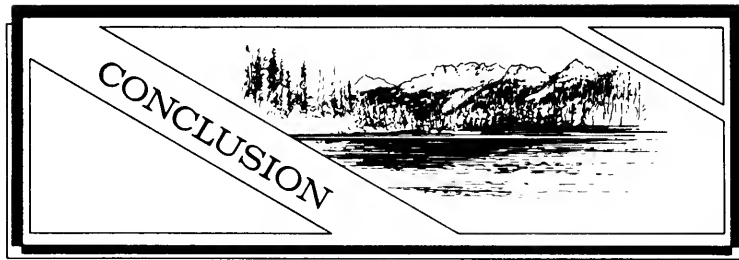


FIGURE 2

SAMPLE PLAN SECTION FROM KANSAS WATER PLAN

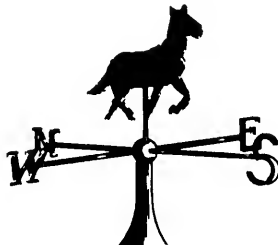
ISSUE: NON-POINT SOURCE POLLUTION

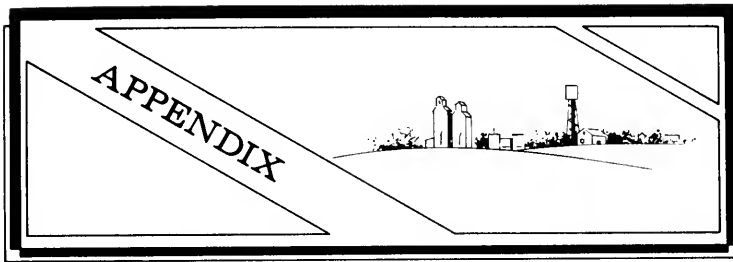
<u>Standard Outline</u>	<u>Summarized Content</u>
I. Management Framework	
A. Policy	Kansas Water Quality Standards, Federal Clean Act Water
B. Administrative Structure	Kansas Department of Health and Environmental Sciences, County Conservation Districts, State Conservation Commission
II. Issue Identification	Non-point pollution contributes to the aging of lakes, water treatment costs, adverse effects on human, fish, and animal health. Reducing this form of water pollution will require changes in land use management practices
III. Analysis of Options	1) statewide program for non-point source control, 2) statewide strategy with local implementation
IV. Recommendations	Option 2 recommended
V. Plan Implementation	
A. Legislative Action	None required in this example
B. Administrative Action	1) Kansas Department of Health and Environmental Sciences will develop the strategy and basin priorities 2) County conservation districts will develop individual implementation plans
C. Financial Requirements	One new staff person for the state, federal funds for local implementation
D. Time Table	Basins ranked according to priority for completion of implementation plans
E. Progress	Will be described at the time of reevaluation
VI. References	Previously published reports



This report documents a new direction for development of the state water plan, needed because of growing concerns over the magnitude of current and future problems and a fear that past and present planning is inadequate for achieving their timely solution. The revised planning process is designed to bring more order and stability to the system in which planners, decision makers, and the public work together for solving these problems.

The new planning process cannot solve all water problems, but it can make a big difference. With the increased interaction of the public, policy makers and water management agencies at all levels of government, and the goal of producing results as a key incentive--water problems can be overcome. The planning process creates a flexible framework not only for finding solutions, but for putting them in place.





## **POTENTIAL COMPONENTS OF THE STATE WATER PLAN**

Preface. The Montana State Water Planning Process and Purpose

### **Part I. Statewide Management Issues**

#### **Section A. Water Supply Management**

1. Water Allocation
  - a. General Adjudication Process
  - b. Permitting Process
  - c. Water Reservations
  - d. Water Leasing
2. Federal Reserved Water Rights
  - a. Indian
  - b. Non-Indian
3. Conservation
  - a. Drought Management
  - b. Agricultural Water Use Efficiency
  - c. Municipal and Industrial Water Use Efficiency
4. Water Development
  - a. Project Planning and Selection
  - b. Cost-sharing
5. Hydropower
  - a. Northwest Power Planning
  - b. Federal Licensing Process
  - c. Small Scale Hydro
  - d. Pick-Sloan Power Allocation
6. Dam Safety
  - a. Permitting Process
  - b. Emergency Responsibilities

7. Flood Protection
  - a. Floodplain Regulation and National Flood Insurance Program Assistance
  - b. Streambank Stabilization
8. Interstate/International Water Problems
  - a. Missouri River Apportionment
  - b. Canadian Issues
  - c. Yellowstone Compact Issues
  - d. Columbia River Basin Issues
9. Instream Flows
  - a. Public Trust Doctrine Application
  - b. For Water Quality Dilution and Aquatic Life
10. Ground Water Management
  - a. Controlled Ground Water Areas
  - b. Water Well Drilling
  - c. Oil and Gas Development
11. Weather Modification
  - a. Permitting Process
  - b. Technology Development
12. Water Resources Information
  - a. Data Management System
  - b. Water Research

#### **Section B. Water Quality Management**

1. Water Quality Standard-setting Process
2. Point-source Pollution Permitting Process

3. Nonpoint-source Pollution Control

- a. Agricultural
- b. Forestry
- c. Mining

4. Non-degradation

5. Public Water Supply Protection

6. Ground Water Quality Protection

7. Special Problems

- a. Salinity
- b. Suspended and Depositional Sediment
- c. Stream Dewatering
- d. Toxic Waste Disposal
- e. Lake Eutrophication
- f. Acid Mine Drainage

3. Wetlands Preservation

Part II. Basin Management Issues\*

Section A. Columbia River Basin

- 1. Kootenai (1)
- 2. Upper Flathead (2)
- 3. Upper Clark Fork (3)
- 4. Lower Clark Fork (4)

Section B. Missouri River Basin

- 1. Jefferson-Madison-Gallatin (5)
- 2. Upper Missouri (6)
- 3. Marias-Teton (7)
- 4. Musselshell (8)
- 5. Middle Missouri (9)
- 6. Milk-St. Mary (10)
- 7. Lower Missouri (11)

Section C. Aquatic and Recreational Management

1. Riparian Zone Management

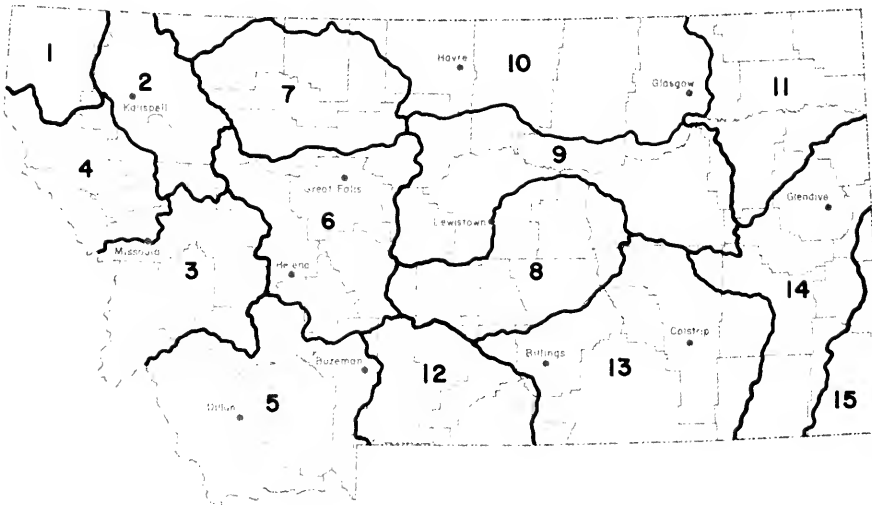
- a. Dredge and Fill Regulation
- b. Recreational Access
- c. Reservoir Operation

2. Endangered Species

Section C. Yellowstone River Basin

- 1. Upper Yellowstone (12)
- 2. Middle Yellowstone (13)
- 3. Lower Yellowstone (14)
- 4. Little Missouri (15)

\* Numbers in parenthesis correspond to regions on the map below.





***MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION***



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